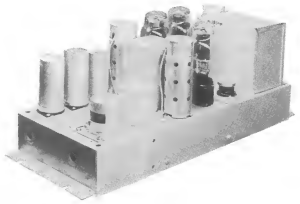
124E AMPLIFIER
(WESTERN ELECTRIC)



GENERAL

The 124E amplifier is a push-pull, two-stage amplifier with self-contained power supply unit and plate supply filter. It is designed for use where high input levels will not be encountered, where high gain is desired and where it is not essential that the impedance looking into the amplifier shall match the source impedance. There are three different input arrangements, the one chosen depending upon the type of service on which the amplifier will be employed and the maximum input levels which may be encountered.

ELECTRICAL CHARACTERISTICS

Gain - - - - - - Input No. 1, 63 db (high gain input), 50 db (bridging input); input No. 2, 30 db; input No. 3, 43 db.

Source Impedance- Input No. 1, 0 to 1000 ohms (high gain input), 0 to 25,000 ohms (bridging input); input No. 2, 0 to 25,000 ohms; input No. 3, 0 to 1000 ohms.

Internal Input Impedance - Input No. 1, 1000 ohms (high gain input), 40,000 ohms (bridging input); input No. 2, 40,000 ohms; input No. 3, 600 ohms.

Internal Output Impedance - 3/4 of nominal load impedance.

Load Impedance - 1.75, 7.5, 16, 30, 150 or 600 ohms. Also 70-volt loudspeaker distribution line. See output connections table on schematic.

Output Level - - +41 dbm (12 watts) with less than 5% total harmonic distortion from 50 to 5000 cycles, at +43 dbm (20 watts) with 5% total harmonic distortion and 400 cycles with 600-ohm load.

Output Noise - - -37 dbm (unweighted).

Frequency Response - - - ±1 db, 50 to 15,000 cycles.

Gain Control - - 38 db in 2 db steps.

Power Supply - - 105 to 125 volts, 50 to 60 cycles, 1.1 amperes, 105 watts when used with 12-watt output connection. 105 to 125 volts, 50 to 60 cycles, 1.25 amperes, 125 watts when used with 20-watt output connection.

EQUIPMENT CHARACTERISTICS

Dimensions - - 19" long, 7" high, 7-3/8" deep including controls.

Weight - - - - Approximately 20 pounds.

Finish - - - - Chassis: Aluminum lacquer. Front and edge of mat: black enamel, dark aluminum gray, gray or blue gray.

Mounting - - - Relay rack, shelf or apparatus cabinet.

ELECTRON TUBES

(These tubes are not supplied with the amplifier and must be ordered separately.)

	W.E. Co.		Commercial
2 - - - - - - - -	348A	or	6J7 or 6J7G
2 - - - - - - - -	350B	or	6L6 or 6L6G
1 - - - - - - - -	274B	or	5T4 or 5U4G

REFERENCES

ESX-675954 - - - - - Assembly and Stock List.
ESX-676196 - - - - - Wiring Diagram.
ESXX-676195 - - - - Schematic.
BSP 024-104-100 - - 124-Type Amplifier.
BSP 024-104-501 - - 103 and 124-Type Amplifiers.

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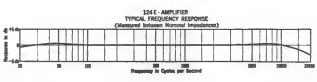
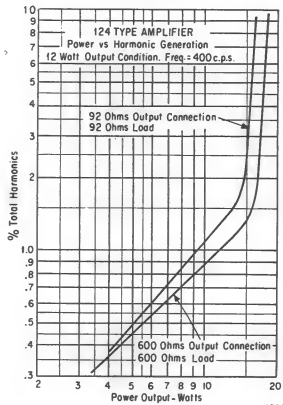
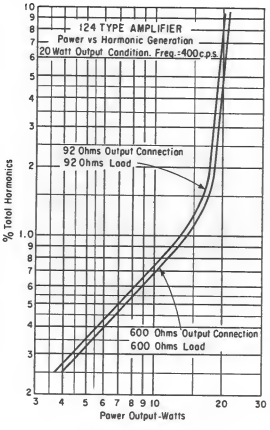
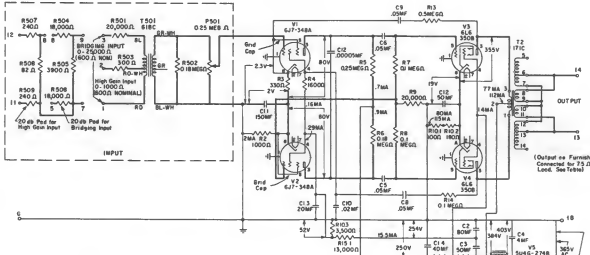






124E AMPLIFIER



NOTES:

1. The voltage and current values shown represent typical no signal conditions for a 12 watt amplifier connection when equipped with Western Electric type tubes and operated from a 105, 120 volt power line connected to L1 & L2. For the 20 watt connection multiply the values shown by a factor of 1.10
2. When the amplifier is equipped with the Non-Western Electric type tubes indicated (excluding 5U4G rectifier) multiply the values shown by a factor of 1.25 for the 12 & 20 watt conditions respectively (exception the 6L6 screen current is approximately .088 in either case)

OUTPUT CONNECTIONS TABLE (T2)

12 WATTS OUTPUT		20 WATTS OUTPUT			
Nominal Load Impedance	Working Range of Load Impedance	Nominal Load Impedance	Working Range of Load Impedance	Strap Terminals	Output Connections
6000	3000 to 12000	4000	2000 to 8000	7-8, 9-10, 11-12	5 & 14
1500	700 to 3000	1000	500 to 2000	7-8, 9-14, 11-12, 5-10	5 & 14
500	250 to 700	250	100 to 500	7-8, 9-10, 11-12	6 & 13
150	100 to 200	100	50 to 150	7-8, 10, 9-11, 12	8 & 13
75.0	30 to 100	50	30 to 70	7-9, 10-12, 8, 2, 11	6 & 13
17.50	12 to 30	12.5	8.5 to 20	8-9, 10-12, 7-9, 11	6 & 13

70V OUTPUT	22.8 20 WATTS OUTPUT
Strap Terminal	Output Connections
6-13	5 & 14